



PCT09

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/09/701,586B

TIME: 15:53:49

Input Set : A:\701586sq

Output Set: N:\CRF3\06042002\I701586B.raw

Pf.
ENTERED

3 <110> APPLICANT: Kock, Michael
 4 Hoeger, Thomas
 5 Kroeger, Burkhard
 6 Otterbach, Bernd
 7 Lubisch, Wilfried
 8 Lemaire, Hans-Georg
 10 <120> TITLE OF INVENTION: Poly (ADP-ribose) polymerase-gene
 12 <130> FILE REFERENCE: 0050/49100
 14 <140> CURRENT APPLICATION NUMBER: US 09/701,586B
 15 <141> CURRENT FILING DATE: 2002-04-25
 17 <150> PRIOR APPLICATION NUMBER: PCT/EP99/03889
 18 <151> PRIOR FILING DATE: 1999-06-04
 20 <160> NUMBER OF SEQ ID NOS: 33
 22 <170> SOFTWARE: PatentIn/WordPerfect
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 1843
 26 <212> TYPE: DNA
 27 <213> ORGANISM: Homo sapiens
 29 <220> FEATURE:
 30 <221> NAME/KEY: CDS
 31 <222> LOCATION: (3)...(1715)
 32 <223> OTHER INFORMATION: product is Poly ADP Ribose Polymerase; from brain tissue
 34 <400> SEQUENCE: 1
 36 cc atg gcg gcg cgg cgg cga cgg agc acc ggc ggc ggc agg gcg aga 47
 37 Met Ala Ala Arg Arg Arg Arg Ser Thr Gly Gly Arg Ala Arg
 38 1 5 10 15
 40 gca tta aat gaa agc aaa aga gtt aat aat ggc aac acg gct cca gaa 95
 41 Ala Leu Asn Glu Ser Lys Arg Val Asn Asn Gly Asn Thr Ala Pro Glu
 42 20 25 30
 44 gac tct tcc cct gcc aag aaa act cgt aga tgc cag aga cag gag tgc 143
 45 Asp Ser Ser Pro Ala Lys Lys Thr Arg Arg Cys Gln Arg Gln Glu Ser
 46 35 40 45
 48 aaa aag atg cct gtg gct gga gga aaa gct aat aag gac agg aca gaa 191
 49 Lys Lys Met Pro Val Ala Gly Gly Lys Ala Asn Lys Asp Arg Thr Glu
 50 50 55 60
 52 gac aag caa gat gaa tct gtg aag gcc ttg ctg tta aag ggc aaa gct 239
 53 Asp Lys Gln Asp Glu Ser Val Lys Ala Leu Leu Leu Lys Gly Lys Ala
 54 65 70 75
 56 cct gtg gac cca gag tgt aca gcc aag gtg ggg aag gct cat gtg tat 287
 57 Pro Val Asp Pro Glu Cys Thr Ala Lys Val Gly Lys Ala His Val Tyr
 58 80 85 90 95
 60 tgt gaa gga aat gat gtc tat gat gtc atg cta aat cag acc aat ctc 335
 61 Cys Glu Gly Asn Asp Val Tyr Asp Val Met Leu Asn Gln Thr Asn Leu

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/09/701,586B

TIME: 15:53:49

Input Set : A:\701586sq

Output Set: N:\CRF3\06042002\I701586B.raw

62		100		105		110	
64	cag ttc aac aac aac aag tac tat ctg att cag cta tta gaa gat gat						383
65	Gln Phe Asn Asn Asn Lys Tyr Tyr Leu Ile Gln Leu Leu Glu Asp Asp						
66		115		120		125	
68	gcc cag agg aac ttc agt gtt tgg atg aga tgg ggc cga gtt ggg aaa						431
69	Ala Gln Arg Asn Phe Ser Val Trp Met Arg Trp Gly Arg Val Gly Lys						
70		130		135		140	
72	atg gga cag cac agc ctg gtg gct tgt tca ggc aat ctc aac aag gcc						479
73	Met Gly Gln His Ser Leu Val Ala Cys Ser Gly Asn Leu Asn Lys Ala						
74		145		150		155	
76	aag gaa atc ttt cag aag aaa ttc ctt gac aaa acg aaa aac aat tgg						527
77	Lys Glu Ile Phe Gln Lys Lys Phe Leu Asp Lys Thr Lys Asn Asn Trp						
78	160		165		170		175
80	gaa gat cga gaa aag ttt gag aag gtg cct gga aaa tat gat atg cta						575
81	Glu Asp Arg Glu Lys Phe Glu Lys Val Pro Gly Lys Tyr Asp Met Leu						
82		180		185		190	
84	cag atg gac tat gcc acc aat act cag gat gaa gag gaa aca aag aaa						623
85	Gln Met Asp Tyr Ala Thr Asn Thr Gln Asp Glu Glu Glu Thr Lys Lys						
86		195		200		205	
88	gag gaa tct ctt aaa tct ccc ttg aag cca gag tca cag cta gat ctt						671
89	Glu Glu Ser Leu Lys Ser Pro Leu Lys Pro Glu Ser Gln Leu Asp Leu						
90		210		215		220	
92	cgg gta cag gag tta ata aag ttg atc tgt aat gtt cag gcc atg gaa						719
93	Arg Val Gln Glu Leu Ile Lys Leu Ile Cys Asn Val Gln Ala Met Glu						
94		225		230		235	
96	gaa atg atg atg gaa atg aag tat aat acc aag aaa gcc cca ctt ggg						767
97	Glu Met Met Met Glu Met Lys Tyr Asn Thr Lys Lys Ala Pro Leu Gly						
98	240		245		250		255
100	aag ctg aca gtg gca caa atc aag gca ggt tac cag tct ctt aag aag						815
101	Lys Leu Thr Val Ala Gln Ile Lys Ala Gly Tyr Gln Ser Leu Lys Lys						
102		260		265		270	
104	att gag gat tgt att cgg gct ggc cag cat gga cga gct ctc atg gaa						863
105	Ile Glu Asp Cys Ile Arg Ala Gly Gln His Gly Arg Ala Leu Met Glu						
106		275		280		285	
108	gca tgc aat gaa ttc tac acc agg att ccg cat gac ttt gga ctc cgt						911
109	Ala Cys Asn Glu Phe Tyr Thr Arg Ile Pro His Asp Phe Gly Leu Arg						
110		290		295		300	
112	act cct cca cta atc cgg aca cag aag gaa ctg tca gaa aaa ata caa						959
113	Thr Pro Pro Leu Ile Arg Thr Gln Lys Glu Leu Ser Glu Lys Ile Gln						
114		305		310		315	
116	tta cta gag gct ttg gga gac att gaa att gct att aag ctg gtg aaa						1007
117	Leu Leu Glu Ala Leu Gly Asp Ile Glu Ile Ala Ile Lys Leu Val Lys						
118	320		325		330		335
120	aca gag cta caa agc cca gaa cac cca ttg gac caa cac tat aga aac						1055
121	Thr Glu Leu Gln Ser Pro Glu His Pro Leu Asp Gln His Tyr Arg Asn						
122		340		345		350	
124	cta cat tgt gcc ttg cgc ccc ctt gac cat gaa agt tac gag ttc aaa						1103
125	Leu His Cys Ala Leu Arg Pro Leu Asp His Glu Ser Tyr Glu Phe Lys						
126		355		360		365	

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/09/701,586B

TIME: 15:53:49

Input Set : A:\701586sq

Output Set: N:\CRF3\06042002\I701586B.raw

```

128 gtg att tcc cag tac cta caa tct acc cat gct ccc aca cac agc gac      1151
129 Val Ile Ser Gln Tyr Leu Gln Ser Thr His Ala Pro Thr His Ser Asp
130      370      375      380
-----
132 tat acc atg acc ttg ctg gat ttg ttt gaa gtg gag aag gat ggt gag      1199
133 Tyr Thr Met Thr Leu Leu Asp Leu Phe Glu Val Glu Lys Asp Gly Glu
134      385      390      395
136 aaa gaa gcc ttc aga gag gac ctt cat aac agg atg ctt cta tgg cat      1247
137 Lys Glu Ala Phe Arg Glu Asp Leu His Asn Arg Met Leu Leu Trp His
138 400      405      410      415
140 ggt tcc agg atg agt aac tgg gtg gga atc ttg agc cat ggg ctt cga      1295
141 Gly Ser Arg Met Ser Asn Trp Val Gly Ile Leu Ser His Gly Leu Arg
142      420      425      430
144 att gcc cca cct gaa gct ccc atc aca ggt tac atg ttt ggg aaa gga      1343
145 Ile Ala Pro Pro Glu Ala Pro Ile Thr Gly Tyr Met Phe Gly Lys Gly
146      435      440      445
148 atc tac ttt gct gac atg tct tcc aag agt gcc aat tac tgc ttt gcc      1391
149 Ile Tyr Phe Ala Asp Met Ser Ser Lys Ser Ala Asn Tyr Cys Phe Ala
150      450      455      460
152 tct cgc cta aag aat aca gga ctg ctg ctc tta tca gag gta gct cta      1439
153 Ser Arg Leu Lys Asn Thr Gly Leu Leu Leu Leu Ser Glu Val Ala Leu
154      465      470      475
156 ggt cag tgt aat gaa cta cta gag gcc aat cct aag gcc gaa gga ttg      1487
157 Gly Gln Cys Asn Glu Leu Leu Glu Ala Asn Pro Lys Ala Glu Gly Leu
158 480      485      490      495
160 ctt caa ggt aaa cat agc acc aag ggg ctg ggc aag atg gct ccc agt      1535
161 Leu Gln Gly Lys His Ser Thr Lys Gly Leu Gly Lys Met Ala Pro Ser
162      500      505      510
164 tct gcc cac ttc gtc acc ctg aat ggg agt aca gtg cca tta gga cca      1583
165 Ser Ala His Phe Val Thr Leu Asn Gly Ser Thr Val Pro Leu Gly Pro
166      515      520      525
168 gca agt gac aca gga att ctg aat cca gat ggt tat acc ctc aac tac      1631
-----
169 Ala Ser Asp Thr Gly Ile Leu Asn Pro Asp Gly Tyr Thr Leu Asn Tyr
170      530      535      540
172 aat gaa tat att gta tat aac ccc aac cag gtc cgt atg cgg tac ctt      1679
173 Asn Glu Tyr Ile Val Tyr Asn Pro Asn Gln Val Arg Met Arg Tyr Leu
174      545      550      555
176 tta aag gtt cag ttt aat ttc ctt cag ctg tgg tga atgttgatat      1725
177 Leu Lys Val Gln Phe Asn Phe Leu Gln Leu Trp
178 560      565      570
180 taaataaacc agagatctga tcttcaagca agaaaataag cagtgttgta cttgtgaatt      1785
182 ttgtgatatt ttatgtaata aaaactgtac aggtctaaaa aaaaaaaaaa aaaaaaaaaa      1843
185 <210> SEQ ID NO: 2
186 <211> LENGTH: 570
187 <212> TYPE: PRT
188 <213> ORGANISM: Homo sapiens
190 <400> SEQUENCE: 2
192 Met Ala Ala Arg Arg Arg Arg Ser Thr Gly Gly Gly Arg Ala Arg Ala
193 1 5 10 15
195 Leu Asn Glu Ser Lys Arg Val Asn Asn Gly Asn Thr Ala Pro Glu Asp

```

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/09/701,586B

TIME: 15:53:49

Input Set : A:\701586sq

Output Set: N:\CRF3\06042002\I701586B.raw

196			20				25				30					
198	Ser	Ser	Pro	Ala	Lys	Lys	Thr	Arg	Arg	Cys	Gln	Arg	Gln	Glu	Ser	Lys
199			35				40				45					

201	Lys	Met	Pro	Val	Ala	Gly	Gly	Lys	Ala	Asn	Lys	Asp	Arg	Thr	Glu	Asp
202		50					55				60					
204	Lys	Gln	Asp	Glu	Ser	Val	Lys	Ala	Leu	Leu	Leu	Lys	Gly	Lys	Ala	Pro
205	65					70				75					80	
207	Val	Asp	Pro	Glu	Cys	Thr	Ala	Lys	Val	Gly	Lys	Ala	His	Val	Tyr	Cys
208					85				90					95		
210	Glu	Gly	Asn	Asp	Val	Tyr	Asp	Val	Met	Leu	Asn	Gln	Thr	Asn	Leu	Gln
211			100					105					110			
213	Phe	Asn	Asn	Asn	Lys	Tyr	Tyr	Leu	Ile	Gln	Leu	Leu	Glu	Asp	Asp	Ala
214			115					120					125			
216	Gln	Arg	Asn	Phe	Ser	Val	Trp	Met	Arg	Trp	Gly	Arg	Val	Gly	Lys	Met
217		130					135				140					
219	Gly	Gln	His	Ser	Leu	Val	Ala	Cys	Ser	Gly	Asn	Leu	Asn	Lys	Ala	Lys
220	145				150					155					160	
222	Glu	Ile	Phe	Gln	Lys	Lys	Phe	Leu	Asp	Lys	Thr	Lys	Asn	Asn	Trp	Glu
223				165					170					175		
225	Asp	Arg	Glu	Lys	Phe	Glu	Lys	Val	Pro	Gly	Lys	Tyr	Asp	Met	Leu	Gln
226			180					185					190			
228	Met	Asp	Tyr	Ala	Thr	Asn	Thr	Gln	Asp	Glu	Glu	Glu	Thr	Lys	Lys	Glu
229		195					200					205				
231	Glu	Ser	Leu	Lys	Ser	Pro	Leu	Lys	Pro	Glu	Ser	Gln	Leu	Asp	Leu	Arg
232		210					215					220				
234	Val	Gln	Glu	Leu	Ile	Lys	Leu	Ile	Cys	Asn	Val	Gln	Ala	Met	Glu	Glu
235	225				230					235					240	
237	Met	Met	Met	Glu	Met	Lys	Tyr	Asn	Thr	Lys	Lys	Ala	Pro	Leu	Gly	Lys
238				245					250					255		
240	Leu	Thr	Val	Ala	Gln	Ile	Lys	Ala	Gly	Tyr	Gln	Ser	Leu	Lys	Lys	Ile
241			260					265					270			

243	Glu	Asp	Cys	Ile	Arg	Ala	Gly	Gln	His	Gly	Arg	Ala	Leu	Met	Glu	Ala
244			275					280					285			
246	Cys	Asn	Glu	Phe	Tyr	Thr	Arg	Ile	Pro	His	Asp	Phe	Gly	Leu	Arg	Thr
247		290					295				300					
249	Pro	Pro	Leu	Ile	Arg	Thr	Gln	Lys	Glu	Leu	Ser	Glu	Lys	Ile	Gln	Leu
250	305				310					315					320	
252	Leu	Glu	Ala	Leu	Gly	Asp	Ile	Glu	Ile	Ala	Ile	Lys	Leu	Val	Lys	Thr
253				325					330					335		
255	Glu	Leu	Gln	Ser	Pro	Glu	His	Pro	Leu	Asp	Gln	His	Tyr	Arg	Asn	Leu
256			340					345					350			
258	His	Cys	Ala	Leu	Arg	Pro	Leu	Asp	His	Glu	Ser	Tyr	Glu	Phe	Lys	Val
259		355					360					365				
261	Ile	Ser	Gln	Tyr	Leu	Gln	Ser	Thr	His	Ala	Pro	Thr	His	Ser	Asp	Tyr
262		370					375					380				
264	Thr	Met	Thr	Leu	Leu	Asp	Leu	Phe	Glu	Val	Glu	Lys	Asp	Gly	Glu	Lys
265	385				390					395					400	
267	Glu	Ala	Phe	Arg	Glu	Asp	Leu	His	Asn	Arg	Met	Leu	Leu	Trp	His	Gly
268				405				410						415		

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/09/701,586B

TIME: 15:53:49

Input Set : A:\701586sq

Output Set: N:\CRF3\06042002\I701586B.raw

```

270 Ser Arg Met Ser Asn Trp Val Gly Ile Leu Ser His Gly Leu Arg Ile
271           420           425           430
273 Ala Pro Pro Glu Ala Pro Ile Thr Gly Tyr Met Phe Gly Lys Gly Ile
274           435           440           445
276 Tyr Phe Ala Asp Met Ser Ser Lys Ser Ala Asn Tyr Cys Phe Ala Ser
277           450           455           460
279 Arg Leu Lys Asn Thr Gly Leu Leu Leu Leu Ser Glu Val Ala Leu Gly
280 465           470           475           480
282 Gln Cys Asn Glu Leu Leu Glu Ala Asn Pro Lys Ala Glu Gly Leu Leu
283           485           490           495
285 Gln Gly Lys His Ser Thr Lys Gly Leu Gly Lys Met Ala Pro Ser Ser
286           500           505           510
288 Ala His Phe Val Thr Leu Asn Gly Ser Thr Val Pro Leu Gly Pro Ala
289           515           520           525
291 Ser Asp Thr Gly Ile Leu Asn Pro Asp Gly Tyr Thr Leu Asn Tyr Asn
292           530           535           540
294 Glu Tyr Ile Val Tyr Asn Pro Asn Gln Val Arg Met Arg Tyr Leu Leu
295 545           550           555           560
297 Lys Val Gln Phe Asn Phe Leu Gln Leu Trp
298           565           570

```

301 <210> SEQ ID NO: 3

302 <211> LENGTH: 2265

303 <212> TYPE: DNA

304 <213> ORGANISM: Homo sapiens

306 <220> FEATURE:

307 <221> NAME/KEY: CDS

308 <222> LOCATION: (242)...(1843)

309 <223> OTHER INFORMATION: product is Poly ADP Ribose Polymerase; from uterus tissue

311 <400> SEQUENCE: 3

```

313 tgggactggt cgcctgactc ggcctgcccc agcctctgct tcaccccaact ggtggccaaa      60
315 tagccgatgt ctaatcccc acacaagctc atccccggcc tctgggattg ttgggaattc      120
317 tctccctaata tcacgcctga ggctcatgga gagttgctag acctgggact gccctgggag      180
319 gcgcacacaa ccaggccggg tggcagccag gacctctccc atgtccctgc tttctctggc      240
321 c atg gct cca aag ccg aag ccc tgg gta cag act gag ggc cct gag      286
322 Met Ala Pro Lys Pro Lys Pro Trp Val Gln Thr Glu Gly Pro Glu
323 1           5           10           15
325 aag aag aag ggc cgg cag gca gga agg gag gag gac ccc ttc cgc tcc      334
326 Lys Lys Lys Gly Arg Gln Ala Gly Arg Glu Glu Asp Pro Phe Arg Ser
327           20           25           30
329 acc gct gag gcc ctc aag gcc ata ccc gca gag aag cgc ata atc cgc      382
330 Thr Ala Glu Ala Leu Lys Ala Ile Pro Ala Glu Lys Arg Ile Ile Arg
331           35           40           45
333 gtg gat cca aca tgt cca ctc agc agc aac ccc ggg acc cag gtg tat      430
334 Val Asp Pro Thr Cys Pro Leu Ser Ser Asn Pro Gly Thr Gln Val Tyr
335           50           55           60
337 gag gac tac aac tgc acc ctg aac cag acc aac atc gag aac aac aac      478
338 Glu Asp Tyr Asn Cys Thr Leu Asn Gln Thr Asn Ile Glu Asn Asn Asn
339           65           70           75
341 aac aag ttc tac atc atc cag ctg ctc caa gac agc aac cgc ttc ttc      526

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/701,586B

DATE: 06/04/2002
TIME: 15:53:50

Input Set : A:\701586sq
Output Set: N:\CRF3\06042002\I701586B.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:11; Xaa Pos. 2,3,4,5,6,7,9,10,11
Seq#:12; Xaa Pos. 1,2,6,7,9,10,11,12,13,14,16,17,18
Seq#:13; Xaa Pos. 6,7,8,9,10,11,12,13,16,17,21,22,24,25,26,27,28,29,31,32
Seq#:13; Xaa Pos. 33,41,42,43,48
Seq#:14; Xaa Pos. 1,2,3,4,5,6,7,9,10,11,12,13,14,16,17,18,19,20,21
Seq#:15; Xaa Pos. 2,3,4,5,6,7,8,9,10,12,13,15,16,20,21,22,23,24,25,26,27,28
Seq#:15; Xaa Pos. 29,30,31,32
Seq#:16; Xaa Pos. 2,3,4,6,8,9,10,11,14,16,18,19,20,21,22,24,25,26,28
Seq#:17; Xaa Pos. 2,4,5,6,8,9,10,11,12,13,14,15,16,18,19,20,21,22,23,24,25
Seq#:17; Xaa Pos. 26,27,33,34,35,38,39,40,41,42,43
Seq#:18; Xaa Pos. 4,8,11,12,13
Seq#:19; Xaa Pos. 2,3,4,6,7,9,13,15,16
Seq#:20; Xaa Pos. 2,3,4,6
Seq#:21; Xaa Pos. 2,3,5,6,7,8,10,11,12,14,15,16,17,18,19,20,21,22,24,26,27
Seq#:22; Xaa Pos. 2,3,4,6,7,8,10,11,12,13
Seq#:29; Xaa Pos. 2,3,4
Seq#:30; Xaa Pos. 2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
Seq#:30; Xaa Pos. 24,25,26,27,28,29,30,31,32,33,34,36,37